

AMENDMENTS TO THE CLAIMS:

Complete Listing of Claims

Claims 1-3. (canceled)

1 Claim 4. (currently amended) An image sensor apparatus, comprising:
2 a pixel circuit for sensing image information;
3 a readout circuit coupled to said pixel circuit for reading out the image
4 information, said readout circuit including a capacitor and a switching
5 arrangement coupled to said capacitor for switching said capacitor into and out
6 of connection between each of first and second pairs of nodes of said readout
7 circuit, wherein
8 said capacitor, when connected between said first pair of nodes,
9 stores charge for reducing noise when reading out the image information,
10 and ~~The apparatus of Claim 2,~~
11 wherein one of said first pair of nodes is a low impedance node.

1 Claim 5. (original) The apparatus of Claim 4, wherein said low impedance node
2 is an output of said readout circuit for reading out the image information.

Claims 6 and 7. (canceled)

1 Claim 8. (currently amended) An image sensor apparatus, comprising:
2 a pixel circuit for sensing image information; and
3 a readout circuit coupled to said pixel circuit for reading out the image
4 information, said readout circuit including a capacitor and a switching
5 arrangement coupled to said capacitor for switching said capacitor into and out
6 of connection between each of first and second pairs of nodes of said readout
7 circuit, wherein
8 said capacitor, when connected between said first pair of nodes, is
9 for reading out the image information,
10 said capacitor, when connected between said second pair of
11 nodes, stores charge for reducing noise when reading out the image
12 information, and ~~The apparatus of Claim 7, wherein~~
13 one of said second pair of nodes is a low impedance node.

1 Claim 9. (original) The apparatus of Claim 8, wherein said low impedance node
2 is an output of said readout circuit for reading out the image information.

Claims 10-13. (canceled)

1 Claim 14. (currently amended) An image sensor apparatus, comprising:
2 a pixel circuit for sensing image information;
3 a readout circuit coupled to said pixel circuit for reading out the image
4 information, said readout circuit including a capacitor and a switching
5 arrangement coupled to said capacitor for switching said capacitor into and out
6 of connection between each of first and second pairs of nodes of said readout
7 circuit ~~The apparatus of Claim 4, wherein one of said nodes is a low impedance~~
8 node that serves as an output of said readout circuit.

Claim 15. (canceled)

1 Claim 16. (currently amended) An image sensor apparatus, comprising:

2 a pixel circuit for sensing image information; and

3 a readout circuit coupled to said pixel circuit for reading out the image
4 information, said readout circuit including a capacitor and a switching
5 arrangement coupled to said capacitor for switching said capacitor into and out
6 of connection between each of first and second pairs of nodes of said readout
7 circuit, wherein

8 said readout circuit includes a buffer having an input coupled to
9 said switching arrangement for connection to said pixel circuit, said buffer
10 having an output for outputting the image information from said readout
11 circuit, and ~~The apparatus of Claim 15, wherein~~

12 said buffer output is one of said nodes of said first pair and said
13 buffer input is one of said nodes of said second pair.

1 Claim 17. (currently amended) An image sensor apparatus, comprising:

2 a pixel circuit for sensing image information;

3 a readout circuit coupled to said pixel circuit for reading out the image
4 information, said readout circuit including a capacitor and a switching
5 arrangement coupled to said capacitor for switching said capacitor into and out
6 of connection between each of first and second pairs of nodes of said readout
7 circuit ~~The apparatus of Claim 4, wherein one of said nodes is a reference~~
8 voltage node and another of said nodes is a low impedance node.

Claims 18-21. (canceled)

1 Claim 22. (currently amended) A method of controlling an image sensor
2 apparatus including a pixel circuit for sensing image information and a readout
3 circuit coupled to the pixel circuit for reading out the image information,
4 comprising the steps of:
5 switching a capacitor into and out of connection between a first pair of
6 nodes of the readout circuit; and
7 switching the capacitor into and out of connection between a second pair
8 of nodes of the readout circuit ~~The method of Claim 18,~~
9 wherein one of said switching steps includes switching said capacitor into
10 connection between a low impedance node and a further node.

1 Claim 23. (currently amended) The method of Claim 22, including the step of
2 using said low impedance node as an output node for reading out the image
3 information from the readout circuit.

1 Claim 24. (previously presented) A method of controlling an image sensor
2 apparatus including (1) a plurality of pixel circuits, each having a photodiode and
3 supplied with power having a first supply voltage, for sensing image information
4 and providing as an output in a readout period a sense voltage representative of
5 the sensed image information, and (2) a readout circuit supplied with power
6 having a second supply voltage, and including a buffer having an input and an
7 output, coupled to receive at an input in sequential readout periods the outputs
8 of the pixel circuits and provide as an output a sequence of pixel voltages
9 corresponding to the sequence of outputs of the pixel circuits, comprising, in
10 each readout period, the steps of:

11 switching a capacitor into a first configuration having connection
12 between the second supply voltage and the output of the buffer; and then

13 switching the capacitor into a second configuration having
14 connection between the output of a pixel circuit and the input of the buffer, such
15 that the capacitor, when the capacitor is in the first configuration a compensating
16 voltage is stored therein including voltage components incidental to the readout
17 of the pixel voltage, and when the capacitor is in the second configuration the
18 incidental voltage components are canceled.

1 Claim 25. (previously presented) A method according to Claim 24, wherein the
2 pixel circuit comprises a MOS transistor having a source, a gate and a drain, the
3 source being connected by way of a first switch to the input of the readout circuit,
4 the drain being connected to the first supply voltage and the gate being
5 connected to the common connection node of first terminals of a second switch
6 and the photodiode, the other terminal of the second switch being connected to
7 the first reference voltage and the other terminal of the photodiode being
8 connected to ground.